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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,403	07/31/2003	Rajnish Kumar	200208333-1	2930
22879	7590	12/15/2008		
HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400			EXAMINER	DIVECHA, KAMAL B
ART UNIT		PAPER NUMBER		2451
NOTIFICATION DATE		DELIVERY MODE		
12/15/2008		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/632,403	Applicant(s) KUMAR ET AL.
	Examiner KAMAL B. DIVECHA	Art Unit 2451

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 31 July 2003.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-15 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-15 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 31 July 2003 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO/0256/06)
 Paper No(s)/Mail Date _____

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____

5) Notice of Informal Patent Application
 6) Other: _____

DETAILED ACTION

This Action is in response to application filed 7/13/03.

Claims 1-15 are pending and presented for examination.

Oath/Declaration

The receipt of the Oath/Declaration is acknowledged.

Drawings

The Drawings are proper and has been accepted.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: "Computer data storage media" as in claims 14-15.

For examination purposes, the computer data storage media is interpreted as physical computer readable storage media.

Claim Objections

Claims 2-3, 9 and 11 are objected to because of the following informalities:

Claim 2 recites the limitation "said device". There is insufficient antecedent basis for this limitation in the claim. However, it appears the said device is referring to the respective device.

Claim 3 recites “with other devices, each other device”. It seems applicant intended to recite with each other device, each other device...

Claim 9 recites the limitation “said availability”. There is insufficient antecedent basis for this limitation in the claim. However, it appears that applicant intended to recite “availability”.

Claim 11 recites the limitation "said combination score", "said weight", and "said unweighted device score". There is insufficient antecedent basis for these limitations in the claim. However, it appears that applicant intended to recite "a combination score", "a weight" and "an unweighted device score", respectively.

It is also noted that claim 11 is recites DSi to be unweighted device score. In the specification, there is no specific definition or suggestion that this device score is not the same as the device score calculated in claim 7.

Appropriate correction is required.

Please note that the listing above is not intended to be exhaustive, and the claim may comprise other informalities. Applicant is advised to closely revise these informalities.

Allowable Subject Matter

Claim 11 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1. Claims 1-8 and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krzyzanowski et al. (hereinafter Krzyzanowski, US 6,792,323 B2) in view of Lunsford et al. (hereinafter Lunsford, US 6,982,962 B1).

As per claim 1, Krzyzanowski discloses a method comprising:

receiving a user request into a coordinating device (fig. 10 step #1003, col. 25 L20-23: watch movie request);

processing with said coordinating device a service description information for each of a plurality of electronic devices available ad-hoc to identify functionally responsive combination of electronic devices capable of servicing said user request (fig. 10 step #1009, col. 25 L4-14: automatically creating the combination of devices by control server);

configuring the said available electronic devices into an ad-hoc combination (fig. 10 step #1018, col. 25 L24-60);

servicing said user request with said ad-hoc combination (fig. 10 step #1021, col. 26 L12-34).

However, Krzyzanowski does not disclose calculating a score for each functionally responsive combination, said calculating using user preference information and configuring (i.e. ranking, sorting, etc.) the said available electronic devices into an ad-hoc combination according to said scores.

Lunsford explicitly discloses the process of calculating a score for each functionally responsive electronic device, said calculating using user preference information (col. 6 L45-65, col. 7 L12-33) and configuring the said available electronic devices according to said scores (col. 6 L45 to col. 7 L33).

Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Krzyzanowski in view of Lunsford in order to calculate a score for each functionally responsive combination using user preference information and configuring the combination according to said scores.

One of ordinary skilled in the art would have been motivated because it would have simplified user's experience by automating the selection process to select the optimum device(s) (Lunsford: col. 1 L40-60).

As per claim 2, Krzyzanowski in view of Lunsford discloses the method further comprising building said service description information for a respective device from a service identifier, which is representative of a function which said device is able to provide; at least one required service identifier, each at least one required service identifier being representative of services that said respective device requires to provide said function; device attribute information, which is representative of characteristics of said device (Krzyzanowski: col. 25 L4-14: device profile, col. 15 L31-53: device discovery and registration); and attribute values, which are representative of a relative score for a respective device attribute (Lunsford: col. 7 L12-64, fig. 6 step #420, 430).

As per claim 3, Krzyzanowski discloses the method further comprising including in said identification of functionally responsive combinations identifying devices having a service identifier which corresponds to said user request and thereafter combines each of said identified devices with each other devices, each other device having a service identifier which matches a required service identifier of a respective identified device (col. 25 L4-14: automatically creating the combination of devices by control server, fig. 10 step #1021, col. 26 L12-34: combining each other devices to implement the users request).

As per claim 4, Krzyzanowski in view of Lunsford discloses the method further comprising computing a separate device score for each device included in a functionally responsive combination, such that for each device said computing uses said device attributes

values and weighs said attribute values according to said user preference information (Lunsford: fig. 6 and col. 7 L12-65).

As per claim 5, Krzyzanowski in view of Lunsford discloses the method further comprising weighting said attributes values with a device-level policy comprising a vector of weights which encodes said user preference information for each device attributes (Lunsford: fig. 6 and col. 7 L12-65).

As per claim 6, Krzyzanowski in view of Lunsford discloses the method further comprising selecting a device-level policy from a predefined group of device-level policies (Lunsford: fig. 6 step #420, col. 7 L12-24, col. 8 L30-53: pre-stated device policies).

As per claim 7, Krzyzanowski in view of Lunsford discloses the method further comprising computing said device score as:

$$DS(D, DP) = \sum_{i=1}^d aw_i(DP) * D(v_i)$$

where:

DS is said device score for device D according to a device level policy DP;

d is said number of attributes for said device;

$aw_i(DP)$ is said weight of attribute i according to policy DP; and

$D(v_i)$ is said device's value for attribute I (Lunsford: fig. 7: is functional code that implements the formula, col. 7 L50-58).

As per claim 8, Krzyzanowski in view of Lunsford discloses the method further comprising using said device scores each device in a functionally responsive combination such that each device score is weighting according to said user preference information (Lunsford: fig. 6 and col. 7 L12-65).

As per claims 12-14 [Apparatus and product], they do not teach or further define over the limitations in claims 1-8. Therefore claims 12-14 are rejected for the same reasons as set forth in claims 1-8.

As per claim 15, Krzyzanowski in view of Lunsford discloses the computer data storage media wherein said computer software instructions comprise run time software modules and configuration software modules, said run time modules comprising:

a user interface for receiving said user request (Krzyzanowski: fig. 1 item #110: providing user interface software module);

a service registration and look up module for registering said service description information for said available devices (Krzyzanowski: fig. 1 item #114, col. 15 L17-53).

an aggregator module for identifying said functionally responsive combinations (Krzyzanowski: fig. 1 item #114, col. 25 L4-14: automatically creating the combination of devices by control server);

an evaluator module for calculating said scores for each of said functionally responsive combinations (Lunsford: fig. 7: is functional code that implements the formula for calculating the score, col. 7 L50-58);

and wherein said configuration modules include:

a service repository for storing said service description information for each registered device (Krzyzanowski: fig. 1 item #114: server, col. 15 L17-53; Lunsford: fig. 2 item #90);

a policy repository for storing policy information; and user preference history files for storing historical user preferences and contextual information (Krzyzanowski: fig. 1 item #114:

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server, col. 22 L9-14, col. 22 L54 to col. 23 L7, col. 24 L36-50: storing user profiles and/or macros file).

2. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krzyzanowski et al. (hereinafter Krzyzanowski, US 6,792,323 B2) in view of Lunsford et al. (hereinafter Lunsford, US 6,982,962 B1), and further in view of Ferlitsch et al. (hereinafter Ferlitsch, US 2002/0089687 A1).

As per claim 9, Krzyzanowski in view of Lunsford discloses the method as in claim 8 above.

However, Krzyzanowski in view of Lunsford does not disclose the process of using a parameter which is indicative of said availability of said device.

Ferlitsch explicitly discloses ranking the devices based on various criteria such as speed, availability, location, etc. (pg. 5 [0050]).

Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Krzyzanowski and Lunsford in view of Ferlitsch in order to use the parameter which indicates the availability of the device.

One of ordinary skilled in the art would have been motivated because it would have enabled the selection of the optimum devices for servicing user's request.

As per claim 10, Krzyzanowski in view of Lunsford discloses the method further comprising encoding a vector of weights for said user preferences information for said device's in a combination (Lunsford: fig. 6 and col. 7 L12-65).

Additional References

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Reisman, US 2003/0229900 A1: Method and Apparatus for browsing using multiple coordinated device sets.
- b. Gao, US 6,581,094 B1: Identifying digital devices based on device's uniform device descriptor file that specifies the attributes of the device in XML document in a networked environment.
- c. Leung et al., US 7,092,977 B2: Techniques for storing data based upon storage policies.
- d. Shibata, US 7,085,761 B2: Changing search results rank.

Conclusion

Examiner's Remarks: The teachings of the prior art should not be restricted and/or limited to the citations by columns and line numbers, as specified in the rejection. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in its entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

In the case of amendments, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and support, for ascertaining the metes and bounds of the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAMAL B. DIVECHA whose telephone number is (571)272-5863. The examiner can normally be reached on Increased Flex Work Schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on 571-272-3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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